INDEX TO AUTHORS

A

Alexander, Joyce. See *Engel, Alexander, and Wheeler*, 159

Andrec, K. See *Savard, Andrec, Brooksbank, Reyneri, Dorfman, Heard, Jacobs, and Solomon*, 765

Antonowicz, I. See *Gershoff, Vitale, Antonowicz, Nakamura, and Hellerstein*, 849

Avron, Mordhay. See *Jagendorf and Avron*, 277

B

Bachhawat, Bimal K., and **Coon, Minor J.** Enzymatic activation of carbon dioxide. I. Crystalline carbon dioxide-activating enzyme, 625

Bachmurski, Dorothy. See *Roth*, 1085, 1097

Baldridge, Robert C. The metabolism of histidine. II. Effects of folic acid deficiency, 207

Ball, Eric G. See *Spiro and Ball*, 31

Barron, Edward J., and **Hanahan, Donald J.** Observations on the silicic acid chromatography of the neutral lipides of rat liver, beef liver, and yeast, 493

Becker, R. R. See *Chan, Becker, and King*, 231

Bernstein, Donald E. See *Zenker and Bernstein*, 695

Besch, Paige K. See *Goldzieher, Besch, and Velez*, 445, 459

Block, Walter D. See *Cornish and Block*, 583

Botticelli, Charles. See *Wotiz, Botticelli, Hisaw, and Ringler*, 589

Brooksbank, B. W. L. See *Savard, Andrec, Brooksbank, Reyneri, Dorfman, Heard, Jacobs, and Solomon*, 765

Brunish, Robert, and **Mozersky, Samuel M.** The characterization of hyaluronidase isolated from *Escherichia freundii*, 291

Burma, D. P., and **Horecker, B. L.** Pentose fermentation by *Lactobacillus plantarum*. III. Ribulokinase, 1039

— and —. IV. L-Ribulose 5-phosphate 4-epimerase, 1053

Burns, J. J. See *Dayton and Burns*, 85

C

Cabib, E., and **Leloir, Luis F.** The biosynthesis of trehalose phosphate, 259

Cantoni, G. L. See *Mudd and Cantoni*, 481

Caravaca, Josefina, and **Grisolia, Santiago.** Enzymatic decarbamylation of carbamyl β-alanine and carbamyl β-aminoisobutyric acid, 357

Chan, P. C., Becker, R. R., and **King, C. G.** Metabolic products of L-ascorbic acid, 231

Cifonelli, J. A., and **Dorfman, Albert.** A colorimetric method for determination of linkage in hexosamine-containing compounds, 11

Ciotti, Margaret M. See *van Eys, Ciotti, and Kaplan*, 571

Clark, Walter L. See *Einset and Clark*, 703

Connors, P. See *Gershoff, Vitale, Antonowicz, Nakamura, and Hellerstein*, 849

Coon, Minor J. See *Bachhawat and Coon*, 625

Copeland, William H. See *Miller and Copeland*, 997

Cornatzer, W. E. See *Snyder and Cornatzer*, 839

Cornish, Herbert H., and **Block, Walter D.** Metabolism of chlorinated naphthalenes, 583

D

Dajani, Rashid M., and **Orten, James M.** A study of the citric acid cycle in erythrocytes, 913

Dayton, Peter G., and **Burns, J. J.** Metabolism of D-ascorbic acid-1-C^{14} in guinea pigs and rats, 85
Deutsch, H. F. See *Morton and Deutsch*, 1119
— and **Morton, Jane I.** Human serum macroglobulins and dissociation units. I. Physicochemical properties, 1107
Dickman, Sherman R., and **Ring, Barbara.** Effects of ionic strength on ribonucleic acid structure and ribonuclease activity, 741
Diniz, Carlos R. See *Jervell, Diniz, and Mueller*, 945
Dobrick, Leonard A. Screening method for glucose of blood serum utilizing glucose oxidase and an indophenol indicator, 403
Donnelly, Jean S. See *Jeffay and Winzler*, 101, 111
Dorfman, Albert. See *Cifonelli and Dorfman*, 11
Dorfman, Ralph I. See *Savard, Andrec, Brooksbank, Reyneri, Dorfman, Heard, Jacobs, and Solomon*, 765

E

Eagle, Harry. See *Piez and Eagle*, 533
Eigner, Elizabeth Ann. See *Loftfield and Eigner*, 925
Einset, Eystein, and **Clark, Walter L.** The enzymatically catalyzed release of choline from lecithin, 703
Elliott, Patricia. See *Stadtman, Elliott, and Tiemann*, 961
Engel, Lewis L., Alexander, Joyce, and **Wheeler, Margaret.** Urinary metabolites of administered 19-nortestosterone, 159
Estrada, J. See *Tsuboi, Estrada, and Hudson*, 19
van Eys, Jan, Ciotti, Margaret M., and **Kaplan, Nathan O.** Yeast alcohol dehydrogenase. IV. Coenzyme binding sites, 571

F

Farbman, A. I. See *Gershoff, Vitale, Antonowicz, Nakamura, and Hellerstein*, 849
Fath, Elizabeth H. See *McCann and Fath*, 863, 869
Felts, J. M. See *Masoro and Felts*, 347
Fischer, Edmond H. See *Krebs, Kent, and Fischer*, 73
— and **Krebs, Edwin G.** The isolation and crystallization of rabbit skeletal muscle phosphorylase *b*, 65
Folk, J. E. See *Gladner and Folk*, 393
— and **Gladner, Jules A.** Carboxypeptidase B. I. Purification of the zymogen and specificity of the enzyme, 379
Fridovich, Irwin, and **Handler, Philip.** Xanthine oxidase. II. Studies of the active site, 899
Frigerio, Norman A., and **Harbury, Henry A.** Preparation and some properties of crystalline glycolic acid oxidase of spinach, 135

G

Gershoff, S. N., Vitale, J. J., Antonowicz, I., Nakamura, Motoomi, and **Hellerstein, E. E.** Studies of interrelationships of thyroxine, magnesium, and vitamin B_{12}, 849
Ginsburg, A. See *Heath, Hurwitz, Horecker, and Ginsburg*, 1009
Giovanelli, J., and **Stumpf, P. K.** Fat metabolism in higher plants. X. —Modified β oxidation of propionate by peanut mitochondria, 411
Gladner, Jules A. See *Folk and Gladner*, 379
— and **Folk, J. E.** Carboxypeptidase B. II. Mode of action on protein substrates and its application to carboxyl terminal group analysis, 393
Goldstein, Madeline. See *Hiatt, Goldstein, Lareau, and Horecker*, 303
Goldzieher, Joseph W., Besch, Paige K., and **Velez, Mary E.** The localization and turnover of glutathione in the rat testis, 459
—, —, and —. The turnover of S^{35}-labeled glutathione in rat adrenal cortex and liver, 445
Gorton, Bert S., Ravel, Joanne M., and **Shive, William.** Deazapteridines and

deazapurines, inhibitory analogues of folic acid and guanine, 331
Grisolia, Santiago. See *Caravaca and Grisolia*, 357
Grossman, Lawrence, and **Kaplan, Nathan O.** Nicotinamide riboside phosphorylase from human erythrocytes. I. Phosphorolytic activity, 717
— and —. II. Nicotinamide sensitivity, 727

H

Halkett, James A. E., Peters, Theodore, Jr., and **Ross, Joseph F.** Studies on the deposition and nature of egg yolk iron, 187
Hanahan, Donald J. See *Barron and Hanahan*, 493
— and **Olley, June N.** Chemical nature of monophosphoinositides, 813
Handler, Philip. See *Fridovich and Handler*, 899
Harbury, Henry A. See *Frigerio and Harbury*, 135
Harrer, Herbert A. See *Dobrick*, 403
Heard, R. D. H. See *Savard, Andrec, Brooksbank, Reyneri, Dorfman, Heard, Jacobs, and Solomon*, 765
Heath, E. C., Horecker, B. L., Smyrniotis, P. Z., and **Takagi, Yasuyuki.** Pentose fermentation by *Lactobacillus plantarum*. II. L-Arabinose isomerase, 1031
—, **Hurwitz, Jerard, Horecker, B. L.,** and **Ginsburg, A.** Pentose fermentation by *Lactobacillus plantarum*. I. The cleavage of xylulose 5-phosphate by phosphoketolase, 1009
Hecht, Liselotte I. See *Hoagland, Stephenson, Scott, Hecht, and Zamecnik*, 241
Hellerman, Leslie. See *Reiss and Hellerman*, 557
—. See *Schellenberg and Hellerman*, 547
Hellerstein, E. E. See *Gershoff, Vitale, Antonowicz, Nakamura, and Hellerstein*, 849
Herbert, Edward. The incorporation of adenine nucleotides into ribonucleic acid of cell-free systems from liver, 975
Herbst, Edward J. See *Weaver and Herbst*, 637, 647
Hiatt, Howard H., Goldstein, Madeline, Lareau, Jacqueline, and **Horecker, B. L.** The pathway of hexose synthesis from pyruvate in muscle, 303
Hill, Robert L., and **Smith, Emil L.** Hydrolysis of mercuripapain by leucine aminopeptidase without loss of enzymic activity, 117
Hisaw, Frederick L., Jr. See *Wotiz, Botticelli, Hisaw, and Ringler*, 589
Hoagland, Mahlon B., Stephenson, Mary Louise, Scott, Jesse F., Hecht, Liselotte I., and **Zamecnik, Paul C.** A soluble ribonucleic acid intermediate in protein synthesis, 241
Horecker, B. L. See *Burma and Horecker*, 1039, 1053
—. See *Heath, Horecker, Smyrniotis, and Takagi*, 1031
—. See *Heath, Hurwitz, Horecker, and Ginsburg*, 1009
—. See *Hiatt, Goldstein, Lareau, and Horecker*, 303
Huang, Po Chao, and **Miller, O. Neal.** The metabolism of lactaldehyde. V. Metabolism of L-fucose, 201
Hudson, Perry B. See *Tsuboi, Estrada, and Hudson*, 19
Hughes, Ann M., and **Tolbert, Bert M.** Oxidation of acetate, glucose, or glycine to carbon dioxide in mice exhibiting the hereditary obesity syndrome, 339
Hurwitz, Jerard. See *Heath, Hurwitz, Horecker, and Ginsburg*, 1009

I

Inglis, Laura. See *Roth*, 1085, 1097

J

Jacobs, R. See *Savard, Andrec, Brooksbank, Reyneri, Dorfman, Heard, Jacobs, and Solomon*, 765
Jagendorf, Andre T., and **Avron, Mordhay.** Cofactors and rates of photosynthetic phosphorylation by spinach chloroplasts, 277

Jeffay, Henry, and **Winzler, Richard J.** The metabolism of serum proteins. I. The turnover rates of rat serum proteins, 101
— and —. II. The effect of dietary protein on the turnover of rat serum protein, 111
Jervell, Kristian F., Diniz, Carlos R., and **Mueller, Gerald C.** Early effects of estradiol on nucleic acid metabolism in the rat uterus, 945

K

Kaplan, Nathan O. See *van Eys, Ciotti, and Kaplan,* 571
—. See *Grossman and Kaplan,* 717, 727
—. See *Lamborg, Stolzenbach, and Kaplan,* 685
Kellerman, Geoffrey M. Benzoyl adenylate and hippuryl adenylate: preparation, properties, and relationship to the synthesis and transport of hippurate, 427
Kennedy, Eugene P. See *Weiss, Smith, and Kennedy,* 53
Kent, Alan B. See *Krebs, Kent, and Fischer,* 73
Kern, Milton, and **Natale, Ralph.** A diphosphopyridine nucleotidase and its protein inhibitor from *Mycobacterium butyricum,* 41
King, C. G. See *Chan, Becker, and King,* 231
Krebs, Edwin G. See *Fischer and Krebs,* 65
—, **Kent, Alan B.,** and **Fischer, Edmond H.** The muscle phosphorylase *b* kinase reaction, 73

L

Lamborg, Marvin, Stolzenbach, Francis E., and **Kaplan, Nathan O.** The nicotinic acid analogue of diphosphopyridine nucleotide, 685
Lands, William E. M. Metabolism of glycerolipides: a comparison of lecithin and triglyceride synthesis, 883
Lang, Helga M. See *San Pietro and Lang,* 211
Lareau, Jacqueline. See *Hiatt, Goldstein, Lareau, and Horecker,* 303
Layne, Ennis C., and **Nason, Alvin.** Cytochrome *c* oxidase from *Azotobacter vinelandii,* 889
Leloir, Luis F. See *Cabib and Leloir,* 259
Levitz, Mortimer, Spitzer, Jean R., and **Twombly, Gray H.** Interconversions of 16-oxygenated estrogens. I. The synthesis of estriol-16-C^{14} and its metabolism in man, 787
Li, Choh Hao. See *Papkoff and Li,* 367
Litwack, Gerald. Thyroid gland potency and kidney lysozyme state, 175
Loftfield, Robert Berner, and **Eigner, Elizabeth Ann.** The time required for the synthesis of a ferritin molecule in rat liver, 925
Loosli, J. K. See *Rechcigl, Loosli, and Williams,* 829

M

Marion, Léo. See *Wiehler and Marion,* 799
Masoro, E. J., and **Felts, J. M.** Role of carbohydrate metabolism in promoting fatty acid oxidation, 347
McCann, Harold G., and **Fath, Elizabeth H.** Phosphate exchange in hydroxylapatite, enamel, dentin, and bone. I. Mechanism of exchange, 863
— and —. II. Effect of fluoride on the exchange, 869
McManus, I. Rosabelle. Synthesis of intracellular peptides in *Torula utilis,* 777
Melchior, Jacklyn B. See *Melchior and Melchior,* 609
Melchior, Norten C., and **Melchior, Jacklyn B.** The role of complex ions in the yeast hexokinase reaction, 609
Meyer, Franz. See *Putnam, Miyake, and Meyer,* 657
Miller, Kent D. Chromatographic isolation of plasma prothrombin and trans-α-glucosylase, 987
—, and **Copeland, William H.** Bovine

blood trans-α-glucosylase, properties and measurement, 997
Miller, O. Neal. See *Huang and Miller*, 201
Miyake, Aiko. See *Putnam and Miyake*, 671
—. See *Putnam, Miyake, and Meyer*, 657
Morgan, Joseph F. See *Morton and Morgan*, 93
Morton, Helen J., and **Morgan, Joseph F.** Studies on the sulfur metabolism of tissues cultivated *in vitro*, 93
Morton, Jane I. See *Deutsch and Morton*, 1107
— and **Deutsch, H. F.** Human serum macroglobulins and dissociation units. II. Immunochemical properties, 1119
Mounter, L. A., and **Shipley, Barbara A.** The inhibition of plasmin by toxic phosphorus compounds, 855
Mozersky, Samuel M. See *Brunish and Mozersky*, 291
Mudd, S. Harvey, and **Cantoni, G. L.** Activation of methionine for transmethylation. III. The methionine-activating enzyme of bakers' yeast, 481
Mueller, Gerald C. See *Jervell, Diniz, and Mueller*, 945

N

Nakamura, Motoomi. See *Gershoff, Vitale, Antonowicz, Nakamura, and Hellerstein*, 849
Nason, Alvin. See *Layne and Nason*, 889
Natale, Ralph. See *Kern and Natale*, 41

O

Olley, June N. See *Hanahan and Olley*, 813
Orten, James M. See *Dajani and Orten*, 913

P

Papkoff, Harold, and **Li, Choh Hao.** The isolation and characterization of growth hormone from anterior lobes of whale pituitaries, 367
Parks, R. E., Jr. See *Way and Parks*, 467
Pentz, E. Irene. Factors influencing the excretion of taurine in irradiated rats, with particular reference to the adrenal glands, 165
Peters, Theodore, Jr. See *Halkett, Peters, and Ross*, 187
Piez, K. A., and **Eagle, Harry.** The free amino acid pool of cultured human cells, 533
Pomerantz, Seymour H. A mass analysis study of the metabolism of propionate by *Propionibacterium arabinosum*, 505
— and **Wood, Harland G.** A mass analysis study of formaldehyde fixation and cleavage of lactate by *Propionibacterium arabinosum*, 519
Prusoff, William H. Studies on a relationship of uracil and cytosine nucleosides to biosynthesis of deoxyribonucleic acid thymine, 873
Putnam, Frank W., and **Miyake, Aiko.** Proteins in multiple myeloma. VIII. Biosynthesis of abnormal proteins, 671
—, —, and **Meyer, Franz.** The metabolism of DL-glutamic acid-1-C^{14} in man, 657

R

Ravel, Joanne M. See *Gorton, Ravel, and Shive*, 331
—. See *Sund, Ravel, and Shive*, 807
Rechcigl, M., Jr., Loosli, J. K., and **Williams, Harold H.** The utilization of D-leucine for growth by the rat, 829
Reiss, Oscar K., and **Hellerman, Leslie.** Pyruvate utilization in heart sarcosomes. Inhibition by an arsenoso compound and reactivation by lipoic acid, 557
Reyneri, C. See *Savard, Andrec, Brooksbank, Reyneri, Dorfman, Heard, Jacobs, and Solomon*, 765
Rieder, Sidney V. See *Rose and Rieder*, 315

Ring, Barbara. See *Dickman and Ring*, 741

Ringler, Ira. See *Wotiz, Botticelli, Hisaw, and Ringler*, 589

—. See *Wotiz, Ziskind, and Ringler*, 593

Roll, Paul M. The incorporation of guanosine 5′-phosphate into the ribonucleic acid in the rat, 183

Rose, Irwin A., and **Rieder, Sidney V.** Studies on the mechanism of the aldolase reaction. Isotope exchange reactions of muscle and yeast aldolase, 315

Ross, Joseph F. See *Halkett, Peters, and Ross*, 187

Roth, Jay S. Ribonuclease. VII. Partial purification and characterization of a ribonuclease inhibitor in rat liver supernatant fraction, 1085

—. VIII. Studies on the inactive ribonuclease in the supernatant fraction of rat liver, 1097

S

San Pietro, Anthony, and **Lang, Helga M.** Photosynthetic pyridine nucleotide reductase. I. Partial purification and properties of the enzyme from spinach, 211

Sarcione, Edward J., and **Sokal, Joseph E.** Detoxication of thiouracil by *S*-methylation, 605

Savard, Kenneth, Andrec, K., Brooksbank, B. W. L., Reyneri, C., Dorfman, Ralph I., Heard, R. D. H., Jacobs, R., and **Solomon, S. S.** The biosynthesis of estrone and progesterone in the pregnant mare, 765

Schellenberg, Karl A., and **Hellerman, Leslie.** Oxidation of reduced diphosphopyridine nucleotide, 547

Schwert, George W. See *Winer and Schwert*, 1065

Scott, Jesse F. See *Hoagland, Stephenson, Scott, Hecht, and Zamecnik*, 241

Shen, G. S. H. See *Gershoff, Vitale, Antonowicz, Nakamura, and Hellerstein*, 849

Shipley, Barbara A. See *Mounter and Shipley*, 855

Shive, William. See *Gorton, Ravel, and Shive*, 331

—. See *Sund, Ravel, and Shive*, 807

Smith, Emil L. See *Hill and Smith*, 117

Smith, Sylvia Wagner. See *Weiss, Smith, and Kennedy*, 53

Smyrniotis, P. Z. See *Heath, Horecker, Smyrniotis, and Takagi*, 1031

Snyder, Fred, and **Cornatzer, W. E.** Sulfur metabolism in chemically induced necrotic liver degeneration, 839

Sokal, Joseph E. See *Sarcione and Sokal*, 605

Solomon, S. S. See *Savard, Andrec, Brooksbank, Reyneri, Dorfman, Heard, Jacobs, and Solomon*, 765

Spiro, Mary Jane, and **Ball, Eric G.** A comparison of the pathways of glucose catabolism in the normal and hyperthyroid rat, 31

Spitzer, Jean R. See *Levitz, Spitzer, and Twombly*, 787

Stadtman, Thressa C., Elliott, Patricia, and **Tiemann, Lydia.** Studies on the enzymic reduction of amino acids. III. Phosphate esterification coupled with glycine reduction, 961

Stephenson, Mary Louise. See *Hoagland, Stephenson, Scott, Hecht, and Zamecnik*, 241

Stolzenbach, Francis E. See *Lamborg, Stolzenbach, and Kaplan*, 685

Stumpf, P. K. See *Giovanelli and Stumpf*, 411

Sund, Roberta F., Ravel, Joanne M., and **Shive, William.** Ornithine-citrulline enzyme synthesis in biotin-deficient cells of *Streptococcus lactis*, 807

Swick, Robert W. Measurement of protein turnover in rat liver, 751

T

Takagi, Y. See *Heath, Horecker, Smyrniotis, and Takagi*, 1031

Tiemann, Lydia. See *Stadtman, Elliott, and Tiemann*, 961

Tolbert, Bert M. See *Hughes and Tolbert*, 339

Tsuboi, K. K., Estrada, J., and **Hudson, Perry B.** Enzymes of the human erythrocyte. IV. Phosphoglucose isomerase, purification and properties, 19

Twombly, Gray H. See *Levitz, Spitzer, and Twombly,* 787

V

Velez, Mary E. See *Goldzieher, Besch, and Velez,* 445, 459

Vitale, J. J. See *Gershoff, Vitale, Antonowicz, Nakamura, and Hellerstein,* 849

W

Walker, James B. Further studies on the mechanism of transamidinase action: transamidination in *Streptomyces griseus,* 1

Way, James L., and **Parks, R. E., Jr.** Enzymatic synthesis of 5′-phosphate nucleotides of purine analogues, 467

Weaver, Robert H., and **Herbst, Edward J.** Metabolism of diamines and polyamines in microorganisms, 637

— and —. The oxidation of polyamines by *Neisseria perflava,* 647

Weiss, Samuel B., Smith, Sylvia Wagner, and **Kennedy, Eugene P.** The enzymatic formation of lecithin from cytidine diphosphate choline and D-1,2-diglyceride, 53

Wheeler, Margaret. See *Engel, Alexander, and Wheeler,* 159

Wiehler, Gerhard, and **Marion, Léo.** The biogenesis of alkaloids. XX. The induced biogenesis of stachydrine, 799

Wilcox, Philip E. See *Yasunobu and Wilcox,* 309

Williams, Harold H. See *Rechcigl, Loosli, and Williams,* 829

Winer, Alfred D., and **Schwert, George W.** Lactic dehydrogenase. IV. The influence of pH on the kinetics of the reaction, 1065

Winzler, Richard J. See *Jeffay and Winzler,* 101, 111

Wood, Harland G. See *Pomerantz and Wood,* 519

Wotiz, Herbert H., Botticelli, Charles, Hisaw, Frederick L., Jr., and **Ringler, Ira.** Identification of estradiol-17β from dogfish ova (*Squalus suckleyi*), 589

—, **Ziskind, Barbara S.,** and **Ringler, Ira.** Studies in steroid metabolism. VI. The fate of estrone-16-C^{14} in rat blood, 593

Y

Yasunobu, Kerry T., and **Wilcox, Philip E.** Differences in the susceptibility of lysozyme and α-lactalbumin to the action of tyrosinase, 309

Z

Zamecnik, Paul C. See *Hoagland, Stephenson, Scott, Hecht, and Zamecnik,* 241

Zenker, Nicolas, and **Bernstein, Donald E.** The estimation of small amounts of corticosterone in rat plasma, 695

Ziskind, Barbara S. See *Wotiz, Ziskind, and Ringler,* 593

INDEX TO SUBJECTS

A

Acetate: Oxidation, to carbon dioxide, obesity syndrome, mice, relation, *Hughes and Tolbert*, 339

Adenine nucleotide(s): Ribonucleic acid, liver, incorporation, *Herbert*, 975

Adenylate: Benzoyl. *See* Benzoyl adenylate

Hippuryl. *See* Hippuryl adenylate

Adrenal(s): Cortex, glutathione, sulfur 35-labeled, turnover, *Goldzieher, Besch, and Velez*, 445

Glands, taurine, excretion, rats, irradiated, relation, *Pentz*, 165

Alanine: Carbamyl β-. *See* Carbamyl β-alanine

Aldolase: Yeast, and muscle, reactions, isotope exchange, *Rose and Rieder*, 315

Alkaloid(s): Biogenesis, induced, *Wiehler and Marion*, 799

Amidination: Trans-. *See* Transamidination

Amine: Di-. *See* Diamine

Poly-. *See* Polyamine

Amino acid(s): Free, cells, human, cultured, *Piez and Eagle*, 533

Reduction, enzymic, *Stadtman, Elliott, and Tiemann*, 961

Aminopeptidase: Leucine, mercuripapain, hydrolysis, use, *Hill and Smith*, 117

Apatite: Hydroxyl-. *See* Hydroxylapatite

Arabinose: L-, isomerase, *Heath, Horecker, Smyrniotis, and Takagi*, 1031

Arsenoso compound: Inhibition, sarcosomes, heart, effect, *Reiss and Hellerman*, 557

Ascorbic acid: L-, products, metabolic, *Chan, Becker, and King*, 231

Ascorbic acid-1-C^{14}: D-, metabolism, *Dayton and Burns*, 85

Azotobacter vinelandii: Oxidase, cytochrome *c*, *Layne and Nason*, 889

B

Bacteria: *See Azotobacter, Escherichia*, etc.

Benzoyl adenylate: Preparation, properties, hippurate, relationship, *Kellerman*, 427

Binding site(s): Coenzyme, yeast alcohol dehydrogenase, connection, *van Eys, Ciotti, and Kaplan*, 571

Biotin: Deficiency, cells, *Streptococcus lactis*, synthesis, ornithine-citrulline, *Sund, Ravel, and Shive*, 807

Blood: Estrone-16-C^{14}, fate, *Wotiz, Ziskind, and Ringler*, 593

Trans-α-glucosylase, properties and measurement, *Miller*, 987

Blood serum: Glucose, screening method, glucose oxidase and indophenol, use, *Dobrick*, 403

Bone: Exchange, phosphate, *McCann and Fath*, 863, 869

Butyric acid: Carbamyl β-aminoiso-. *See* Carbamyl β-aminoisobutyric acid

C

Carbamyl β-alanine: Decarbamylation, enzymatic, *Caravaca and Grisolia*, 357

Carbamyl β-aminoisobutyric acid: Decarbamylation, enzymatic, *Caravaca and Grisolia*, 357

Carbamylation: De-. *See* Decarbamylation

Carbohydrate metabolism: Fatty acid oxidation, role, *Masoro and Felts*, 347

Carbon dioxide: Acetate, glucose, glycine, oxidation, *Hughes and Tolbert*, 339

Crystalline, activation, enzymatic, *Bachhawat and Coon*, 625

Carboxypeptidase B: Protein substrates, mode of action, and terminal group analysis, carboxyl, application, *Gladner and Folk*, 393
Specificity, and zymogen, purification, *Folk and Gladner*, 379
Catabolism: Glucose, rat, normal and hyperthyroid, comparison, *Spiro and Ball*, 31
Cell(s): Human, cultured, amino acid pool, *Piez and Eagle*, 533
Chloroplast(s): Spinach, phosphorylation, photosynthetic, cofactors and rates, use, *Jagendorf and Avron*, 277
Choline: Cytidine diphosphate. *See* Cytidine diphosphate choline
Lecithin, release, enzymatically catalyzed, *Einset and Clark*, 703
Citric acid: Cycle, in erythrocytes, *Dajani and Orten*, 913
Citrulline: Ornithine, and, synthesis, biotin-deficient cells, *Streptococcus lactis, Sund, Ravel, and Shive*, 807
Corticosterone: Plasma, amounts, estimation, *Zenker and Bernstein*, 695
Cytidine diphosphate choline: D-1,2-Diglyceride, and, lecithin formation, relation, *Weiss, Smith, and Kennedy*, 53
Cytochrome c: Oxidase, *Azotobacter vinelandii, Layne and Nason*, 889
Cytosine nucleoside(s): Deoxyribonucleic acid thymine, biosynthesis, relationship, *Prusoff*, 873

D

Deazapteridine(s): Folic acid and guanine, analogues, inhibitory, *Gorton, Ravel, and Shive*, 331
Deazapurine(s): Folic acid and guanine, analogues, inhibitory, *Gorton, Ravel, and Shive*, 331
Decarbamylation: Enzymatic, carbamyl β-alanine and carbamyl β-aminoisobutyric acid, *Caravaca and Grisolia*, 357
Dehydrogenase: Lactic, *Winer and Schwert*, 1065
Yeast alcohol, binding sites, coenzyme, *van Eys, Ciotti, and Kaplan*, 571
Dentin: Exchange, phosphate, *McCann and Fath*, 863, 869
Deoxyribonucleic acid thymine: Biosynthesis, uracil and cytosine nucleosides, relationship, *Prusoff*, 873
Diamine(s): Microorganisms, metabolism, *Weaver and Herbst*, 637
Dietary protein: Serum protein, rat, turnover, effect, *Jeffay and Winzler*, 111
Diglyceride: D-1,2-, cytidine diphosphate choline, and, lecithin formation, relation, *Weiss, Smith, and Kennedy*, 53
Diphosphopyridine: Nucleotidase, and inhibitor, protein, from *Mycobacterium butyricum, Kern and Natale*, 41
Diphosphopyridine nucleotide: Nicotinic acid, analogue, *Lamborg, Stolzenbach, and Kaplan*, 685
Reduced, oxidation, *Schellenberg and Hellerman*, 547
Dogfish ova (Squalus suckleyi): Estradiol-17β, identification, *Wotiz, Botticelli, Hisaw, and Ringler*, 589

E

Egg: Yolk, iron, deposition and nature, *Halkett, Peters, and Ross*, 187
Enamel: Exchange, phosphate, *McCann and Fath*, 863, 869
See also Bone
Enzyme(s): *See* Aldolase, Aminopeptidase, etc.
Enzymic reduction: Amino acids, studies, *Stadtman, Elliott, and Tiemann*, 961
Epimerase: 4-, L-ribulose 5-phosphate, *Burma and Horecker*, 1053
Ergothioneine: Metabolism, sulfur, tissue cultures *in vitro*, requirement, *Morton and Morgan*, 93
Erythrocyte(s): Citric acid cycle, study, *Dajani and Orten*, 913
Human, enzymes, *Tsuboi, Estrada, and Hudson*, 19
—, phosphorylase, nicotinamide riboside, source, *Grossman and Kaplan* 717, 727
See also Blood

Escherichia freundii: Hyaluronidase, isolation, *Brunish and Mozersky*, 291
Estradiol: Nucleic acid, uterus, metabolism, effects, *Jervell, Diniz, and Mueller*, 945
Estradiol-17β: Dogfish ova (*Squalus suckleyi*), identification, *Wotiz, Botticelli, Hisaw, and Ringler*, 589
Estriol-16-C^{14}: Synthesis and metabolism, *Levitz, Spitzer, and Twombly*, 787
Estrogen(s): 16-Oxygenated, interconversions, *Levitz, Spitzer, and Twombly*, 787
Estrone: Progesterone, and, mare, pregnant, biosynthesis, *Savard, Andrec, Brooksbank, Reyneri, Dorfman, Heard, Jacobs, and Solomon*, 765
Estrone-16-C^{14}: Blood, fate, *Wotiz, Ziskind, and Ringler*, 593

F

Fat: Metabolism, higher plants, *Giovanelli and Stumpf*, 411
Fatty acid: Oxidation, carbohydrate metabolism, role, *Masoro and Felts*, 347
Ferritin: Molecule, liver, synthesis, time required, *Loftfield and Eigner*, 925
Fluoride: Exchange, phosphate, effect, *McCann and Fath*, 869
Folic acid: Deazapteridines and deazapurines, analogues, inhibitory, *Gorton, Ravel, and Shive*, 331
Deficiency, effects, *Baldridge*, 207
Formaldehyde: Fixation and cleavage, lactate, *Propionibacterium arabinosum*, mass analysis, use, *Pomerantz and Wood*, 519
Fucose: L-, metabolism, *Huang and Miller*, 201

G

Globulin(s): Macro-. *See* Macroglobulin
Glucose: Catabolism, rat, normal and hyperthyroid, comparison, *Spiro and Ball*, 31
Glucose—*continued:*
Oxidation, to carbon dioxide, obesity syndrome, mice, relation, *Hughes and Tolbert*, 339
Phospho-. *See* Phosphoglucose
Screening method, blood serum, glucose oxidase and indophenol, indicator, *Dobrick*, 403
Glucose oxidase: Blood serum glucose, screening method, indicator, *Dobrick*, 403
Glucosylase: Trans-α-. *See* Trans-α-glucosylase
Glutamic acid-1-C^{14}: Metabolism, in man, *Putnam, Miyake, and Meyer*, 657
Glutathione: Oxidized, metabolism, sulfur, tissue cultures *in vitro*, requirement, *Morton and Morgan*, 93
Sulfur 35-labeled, adrenal cortex and liver, turnover, *Goldzieher, Besch, and Velez*, 445
Testis, localization and turnover, *Goldzieher, Besch, and Velez*, 459
Glyceride: D-1,2,-Di-. *See* Diglyceride
Tri-. *See* Triglyceride
Glycerolipide(s): Metabolism, synthesis, lecithin and triglyceride, comparison, *Lands*, 883
Glycine: Oxidation, to carbon dioxide, obesity syndrome, mice, relation, *Hughes and Tolbert*, 339
Reduction, esterification, phosphate, relation, *Stadtman, Elliott, and Tiemann*, 961
Glycolic acid oxidase: Spinach, preparation and properties, *Frigerio and Harbury*, 135
Growth: Hormone, lobes, anterior, pituitaries, whale, isolation and characterization, *Papkoff and Li*, 367
D-Leucine, utilization, *Rechcigl, Loosli, and Williams*, 829
Guanine: Deazapteridines and deazapurines, analogues, inhibitory, *Gorton, Ravel, and Shive*, 331
Guanosine 5′-phosphate: Ribonucleic acid, incorporation, *Roll*, 183

H

Heart: Sarcosomes, pyruvate utilization, *Reiss and Hellerman*, 557
Hexokinase: Yeast, reaction, ions, complex, role, *Melchior and Melchior*, 609
Hexosamine-containing compound(s): Linkage, determination, colorimetric, *Cifonelli and Dorfman*, 11
Hexose synthesis: Pyruvate, muscle, pathway, *Hiatt, Goldstein, Lareau, and Horecker*, 303
Hippurate: Benzoyl and hippuryl adenylates, relationship, *Kellerman*, 427
Hippuryl adenylate: Preparation, properties, hippurate, relationship, *Kellerman*, 427
Histidine: Metabolism, *Baldridge*, 207
Hormone: Growth, lobes, anterior, pituitaries, whale, isolation and characterization, *Papkoff and Li*, 367
Hyaluronidase: *Escherichia freundii*, isolation, *Brunish and Mozersky*, 291
Hydrogenase: De-. *See* Dehydrogenase
Hydrogen ion concentration: Kinetics reaction, influence, *Winer and Schwert*, 1065
Hydroxylapatite: Exchange, phosphate, *McCann and Fath*, 863, 689

I

Indophenol: Blood serum glucose, screening method, indicator, *Dobrick*, 403
Inositide: Monophospho-. *See* Monophosphoinositide
Iron: Egg yolk, deposition and nature, *Halkett, Peters, and Ross*, 187
Isomerase: L-Arabinose, *Heath, Horecker, Smyrniotis, and Takagi*, 1031
Phosphoglucose, purification and properties, *Tsuboi, Estrada, and Hudson*, 19

K

Ketolase: Phospho-. *See* Phosphoketolase
Kidney: Lysozyme state, *Litwack*, 175
Kinase: Ribulo-. *See* Ribulokinase
Kinetic(s): Reaction, pH influence, *Winer and Schwert*, 1065

L

Lactalbumin: α-, lysozyme, and, tyrosinase, susceptibility, comparison, *Yasunobu*, 309
Lactaldehyde: Metabolism, *Huang and Miller*, 201
Lactate: Fixation and cleavage, formaldehyde, *Propionibacterium arabinosum*, mass analysis, use, *Pomerantz and Wood*, 519
Lactobacillus plantarum: Fermentation, pentose, *Heath, Hurwitz, Horecker, and Ginsburg*, 1009
Lanthionine: Metabolism, sulfur, tissue cultures *in vitro*, requirement, *Morton and Morgan*, 93
Lecithin: Choline, release, enzymatically catalyzed, *Einset and Clark*, 703
Cytidine diphosphate choline and D-1,2-diglyceride, source, *Weiss, Smith, and Kennedy*, 53
Triglyceride, and, synthesis, *Lands*, 883
Leucine: D-, growth, utilization, *Rechcigl, Loosli, and Williams*, 829
Lipide(s): Glycero-. *See* Glycerolipide
Neutral, liver and yeast, chromatography, silicic acid, *Barron and Hanahan*, 493
Lipoic acid: Reactivation, sarcosomes, heart, effect, *Reiss and Hellerman*, 557
Liver: Ferritin, molecule, synthesis, time required, *Loftfield and Eigner*, 925
Fraction, supernatant, inhibitor, ribonuclease, purification and characterization, *Roth*, 1085
—, —, ribonuclease, inactive, studies, *Roth*, 1097
Glutathione, sulfur 35-labeled, turnover, *Goldzieher, Besch, and Velez*, 445
Lipides, neutral, chromatography, silicic acid, *Barron and Hanahan*, 493
Necrotic, degeneration, chemically induced, sulfur metabolism, *Snyder and Cornatzer*, 839

Liver—*continued:*
Protein turnover, measurement, *Swick*, 751
Ribonucleic acid, adenine nucleotides, incorporation, *Herbert*, 975
Lysozyme: Kidney, state, *Litwack*, 175
α-Lactalbumin, and, tyrosinase, susceptibility, comparison, *Yasunobu*, 309

M

Macroglobulin(s): Serum, human, physicochemical properties, *Deutsch and Morton*, 1107
— —, *Morton and Deutsch*, 1119
Magnesium: Thyroxine, vitamin B_{12}, and, interrelationships, *Gershoff, Vitale, Antonowicz, Nakamura, and Hellerstein*, 849
Mercuripapain: Hydrolysis, leucine aminopeptidase, use, *Hill and Smith*, 117
Carbohydrate, fatty acid oxidation, role, *Masoro and Felts*, 347
Diamines, polyamines, and, microorganisms, *Weaver and Herbst*, 637
Fat, higher plants, *Giovanelli and Stumpf*, 411
Glycerolipides, synthesis, lecithin and triglyceride, comparison, *Lands*, 883
Naphthalenes, chlorinated, *Cornish and Block*, 583
Steroid, *Wotiz, Ziskind, and Ringler*, 593
Metabolite(s): Urinary, 19-nortestosterone, administered, *Engel, Alexander, and Wheeler*, 159
Methionine: Activation, transmethylation, use, *Mudd and Cantoni*, 481
Methylation: *S*-, thiouracil, detoxication, *Sarcione and Sokal*, 605
Monophosphoinositide(s): Nature, chemical, *Hanahan and Olley*, 813
Muscle: Aldolase, yeast, reactions, isotope exchange, *Rose and Rieder*, 315
Phosphorylase *b*, kinase reaction, *Krebs, Kent, and Fischer*, 73
Muscle—*continued:*
Pyruvate, hexose synthesis, pathway, *Hiatt, Goldstein, Lareau, and Horecker*, 303
Skeletal, rabbit, phosphorylase *b*, isolation and crystallization, *Fischer and Krebs*, 65
See also Heart
Mycobacterium butyricum: Diphosphopyridine nucleotidase and protein inhibitor, source, *Kern and Natale*, 41
Myeloma: Multiple, proteins, *Putnam and Miyake*, 671
See also Sarcosome

N

Naphthalene(s): Chlorinated, metabolism, *Cornish and Block*, 583
Neisseria perflava: Polyamines, oxidation, *Weaver and Herbst*, 647
Nicotinamide: Sensitivity, *Grossman and Kaplan*, 727
Nicotinic acid: Diphosphopyridine nucleotide, analogue, *Lamborg, Stolzenbach, and Kaplan*, 685
Nortestosterone: 19-, metabolites, urinary, *Engel, Alexander, and Wheeler*, 159
Nuclease: Ribo-. *See* Ribonuclease
Nucleic acid: Ribo-. *See* Ribonucleic acid
Uterus, metabolism, estradiol, effects, *Jervell, Diniz, and Mueller*, 945
Nucleoside(s): Cytosine. *See* Cytosine nucleoside
Uracil. *See* Uracil nucleoside
Nucleotidase: Diphosphopyridine, and inhibitor, protein, from *Mycobacterium butyricum, Kern and Natale*, 41
Nucleotide(s): Adenine. *See* Adenine nucleotide
Diphosphopyridine. *See* Diphosphopyridine nucleotide
5′-Phosphate. *See* Phosphate nucleotide

O

Obesity syndrome: Hereditary, acetate, glucose, glycine, oxidation, to car-

Obesity syndrome—*continued:*
bon dioxide, connection, *Hughes and Tolbert*, 339
Ornithine-citrulline: Synthesis, biotin-deficient cells, *Streptococcus lactis, Sund, Ravel, and Shive*, 807
Ova: *See also* Egg
Dogfish. *See* Dogfish ova
Oxidase: Cytochrome *c*, *Azotobacter vinelandii, Layne and Nason*, 889
Xanthine. *See* Xanthine oxidase
Oxidation: β, propionate, modified, *Giovanelli and Stumpf*, 411
Diphosphopyridine nucleotide, reduced, *Schellenberg and Hellerman*, 547

P

Pentose: Fermentation, *Lactobacillus plantarum, Burma and Horecker*, 1039, 1053
—, — —, *Heath, Horecker, Smyrniotis, and Takagi*, 1031
—, — —, *Heath, Hurwitz, Horecker, and Ginsburg*, 1009
Peptidase: Amino-. *See* Aminopeptidase
Peptidase B: Carboxy-. *See* Carboxypeptidase B
Peptide(s): Intracellular, *Torula utilis*, synthesis, *McManus*, 777
Phosphate: Esterification, glycine reduction, relation, *Stadtman, Elliott, and Tiemann*, 961
—. Guanosine 5′-. *See* Guanosine 5′-phosphate
—. Trehalose. *See* Trehalose phosphate,
—. Xylulose 5-. *See* Xylulose 5-phosphate
Phosphate nucleotide(s): 5′-, analogues, purine, synthesis, enzymatic, *Way and Parks*, 467
Phosphoglucose: Isomerase, purification and properties, *Tsuboi, Estrada, and Hudson*, 19
Phosphorus: Compounds, toxic, plasmin, inhibition, *Mounter and Shipley*, 855
Phosphorylase: Nicotinamide riboside, from erythrocytes, human, *Grossman and Kaplan*, 717, 727
Phosphorylase b: Muscle, kinase reaction, *Krebs, Kent, and Fischer*, 73
—, skeletal, rabbit, isolation and crystallization, *Fischer and Krebs*, 65
Skeletal muscle, rabbit, isolation and crystallization, *Fischer and Krebs*, 65
Phosphorylation: Photosynthetic, chloroplasts, spinach, cofactors and rates, use, *Jagendorf and Avron*, 277
Pituitary: Whale, hormone, growth, isolation and characterization, *Papkoff and Li*, 367
Plasma: Corticosterone, amounts, estimation, *Zenker and Bernstein*, 695
Plasma prothrombin: Isolation, chromatographic, *Miller*, 987
Plasmin: Phosphorus compounds, toxic, inhibition, *Mounter and Shipley*, 855
Polyamine(s): Microorganisms, metabolism, *Weaver and Herbst*, 637
—. *Neisseria perflava*, oxidation, *Weaver and Herbst*, 647
Pregnancy: Mare, estrone and progesterone, biosynthesis, *Savard, Andrec, Brooksbank, Reyneri, Dorfman, Heard, Jacobs, and Solomon*, 765
Progesterone: Estrone, and, mare, pregnant, biosynthesis, *Savard, Andrec, Brooksbank, Reyneri, Dorfman, Heard, Jacobs, and Solomon*, 765
Propionate: β oxidation, modified, *Giovanelli and Stumpf*, 411
Metabolism, *Propionibacterium arabinosum*, mass analysis, use, *Pomerantz*, 505
Propionibacterium arabinosum: Fixation and cleavage, lactate, mass analysis, use, *Pomerantz and Wood*, 519
Metabolism, propionate, mass analysis, use, *Pomerantz*, 505
Protein(s): Abnormal, biosynthesis, *Putnam and Miyake*, 671
Inhibitor, diphosphopyridine nucleotidase, from *Mycobacterium butyricum, Kern and Natale*, 41

Protein(s)—*continued:*
Myeloma, multiple, *Putnam and Miyake*, 671
Serum, metabolism, *Jeffay and Winzler*, 101, 111
Substrates, mode of action, and terminal group analysis, carboxyl, *Gladner and Folk*, 393
Synthesis, ribonucleic acid, soluble, *Hoagland, Stephenson, Scott, Hecht, and Zamecnik*, 241
Turnover, liver, measurement, *Swick*, 751
Prothrombin: Plasma, isolation, chromatographic, *Miller*, 987
Pteridine: Deaza-. *See* Deazapteridine
Purine: Deaza-. *See* Deazapurine
Purine analogue(s): 5′-Phosphate nucleotides, synthesis, enzymatic, *Way and Parks*, 467
Pyridine: Diphospho-. *See* Diphosphopyridine
Pyridine nucleotide reductase: Photosynthetic, *San Pietro and Lang*, 211
Pyruvate: Muscle, hexose synthesis, pathway, *Hiatt, Goldstein, Lareau, and Horecker*, 303
Sarcosomes, heart, utilization, *Reiss and Hellerman*, 557

R

Reductase: Pyridine nucleotide, photosynthetic, *San Pietro and Lang*, 211
Ribonuclease: Inactive, liver fraction, supernatant, studies, *Roth*, 1097
Inhibitor, liver fraction, supernatant, purification and characterization, *Roth*, 1085
Ribulokinase: *Lactobacillus plantarum*, pentose, fermentation, use, *Burma and Horecker*, 1039
Ribonucleic acid: Guanosine 5′-phosphate, incorporation, *Roll*, 183
Liver, adenine nucleotides, incorporation, *Herbert*, 975
Soluble, protein, synthesis, *Hoagland, Stephenson, Scott, Hecht, and Zamecnik*, 241
Ribonucleic acid—*continued:*
Structure, ionic strength, effects, *Dickman and Ring*, 741

S

Sarcosome(s): Heart, arsenoso compound, effect, *Reiss and Hellerman*, 557
—, lipoic acid, reactivation, effect, *Reiss and Hellerman*, 557
—, pyruvate utilization, *Reiss and Hellerman*, 557
See also Myeloma
Serum: Human, macroglobulins, *Morton and Deutsch*, 1119
Serum protein: Rat, dietary protein, turnover, effect, *Jeffay and Winzler*, 111
—, turnover rates, *Jeffay and Winzler*, 101
Silicic acid: Lipides, neutral, liver and yeast, chromatography, *Barron and Hanahan*, 493
Spinach: Chloroplasts, phosphorylation, photosynthetic, use, *Jagendorf and Avron*, 277
Enzyme, purification and properties, partial, *San Pietro and Lang*, 211
Oxidase, glycolic acid, preparation and properties, *Frigerio and Harbury*, 135
Squalus suckleyi: *See* Dogfish ova
Stachydrine: Biogenesis, induced, *Wiehler and Marion*, 799
Steroid: Metabolism, *Wotiz, Ziskind, and Ringler*, 593
Streptococcus lactis: Cells, biotin-deficient, synthesis, ornithine-citrulline, *Sund, Ravel, and Shive*, 807
Streptomyces griseus: Transamidination, mechanism, *Walker*, 1
Sulfur: Metabolism, degeneration, necrotic liver, chemically induced, *Snyder and Cornatzer*, 839
—, tissues, cultivated *in vitro*, *Morton and Morgan*, 93

T

Taurine: Excretion, rats, irradiated, adrenal glands, relation, *Pentz*, 165

Testis: Glutathione, localization and turnover, *Goldzieher, Besch, and Velez,* 459
Thiouracil: *S*-Methylation, detoxication, *Sarcione and Sokal,* 605
Thymine: Deoxyribonucleic acid. *See* Deoxyribonucleic acid thymine
Thyroid: Potency, gland, *Litwack,* 175
Thyroxine: Magnesium, vitamin B_{12}, and, interrelationships, *Gershoff, Vitale, Antonowicz, Nakamura, and Hellerstein,* 849
Torula utilis: Peptides, intracellular, synthesis, *McManus,* 777
Transamidination: *Streptomyces griseus,* mechanism, *Walker,* 1
Trans-α-glucosylase: Blood, bovine, properties and measurement, *Miller and Copeland,* 997
Isolation, chromatographic, *Miller,* 987
Transmethylation: Methionine, activation, use, *Mudd and Cantoni,* 481
Trehalose phosphate: Biosynthesis, *Cabib and Leloir,* 259
Triglyceride: Lecithin, and, synthesis, *Lands,* 883
Tyrosinase: Lysozyme and α-lactalbumin, susceptibility, comparison, *Yasunobu,* 309

U

Uracil: Thio-. *See* Thiouracil
Uracil nucleoside(s): Deoxyribonucleic acid thymine, biosynthesis, relationship, *Prusoff,* 873
Uterus: Nucleic acid, metabolism, estradiol, effects, *Jervell, Diniz, and Mueller,* 945

V

Vitamin B_{12}: Thyroxine, magnesium, and interrelationships, *Gershoff, Vitale, Antonowicz, Nakamura, and Hellerstein,* 849

W

Whale: Pituitaries, lobes, anterior, hormone, growth, isolation and characterization, *Papkoff and Li,* 367

X

Xanthine oxidase: Active site, studies, *Fridovich and Handler,* 899
Xylulose 5-phosphate: Phosphoketolase, cleavage, use, *Heath, Hurwitz, Horecker, and Ginsburg,* 1009

Y

Yeast: Aldolase, reactions, isotope exchange, *Rose and Rieder,* 315
Bakers', enzyme, methionine activation, relation, *Mudd and Cantoni,* 481
Hexokinase reaction, ions, complex, role, *Melchior and Melchior,* 609
Lipides, neutral, chromatography, silicic acid, *Barron and Hanahan,* 493
Yeast alcohol dehydrogenase: Binding sites, coenzyme, *van Eys, Ciotti, and Kaplan,* 571

Z

Zymogen: Purification, *Folk and Gladner,* 379

and
ale,
ller-
849

hor-
rac-
367

dies,
899
lase,
Hor-
1009

e ex-
315
tiva-
ni,
481
plex,

609
aphy,
an,
493
nding
i, and
571

adner,
379